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Claims

1. An interactive television system comprising,
a television head end distribution terminal with input lines having program material in Ethernet frames with Internet protocol addresses as inputs and with multiple cable output lines,
an encoder disposed at the head end distribution terminal mapping the Ethernet frames with Internet protocol address spaces to encapsulated MPEG-2 bitstreams with address spaces smaller than the Internet protocol address spaces, the encoder having an output feeding the MPEG-2 encapsulated bitstreams to the cable output lines, and
a plurality of television set top boxes connected to the cable output lines, each set top box having an MPEG-2 decoder.
2. The system of claim 1 wherein said encoder has diverse sources for said Ethernet frames, including Internet sources and MPEG2 sources, thereby linking Internet IP addresses and MPEG2 addresses and consolidating two communications protocols.
3. The system of claim 1 having a plurality of said encoder ganged together in a manner multiplying content streams from a program source.
4. The system of claim 3 wherein said multiplied content streams are time displaced.
5. The system of claim 3 wherein said multiplied content streams are transmitted to multiple set top boxes.

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6. The system of claim 3 wherein said multiplied content streams are transmitted to a single set top box.

7. The system of claim 1 further comprising an upstream communications link between the set top boxes and the head end.

8. The system of claim 1 further comprising at least one video program material server connected to the encoder.

9. The system of claim 8 comprising a satellite program material input line connected to the encoder.

10. The system of claim 9 further comprising a satellite data management computer interfacing data in the satellite program material input line with the encoder.

11. The system of claim 1 further comprising a control computer connected to the encoder.

12. An interactive television system comprising,
a television head end distribution terminal with input lines having program material in Ethernet frames with Internet protocol addresses as inputs and with multiple cable output lines terminating in a signal combiner,

a plurality of encoders disposed at the head end distribution terminal, each encoder mapping the Ethernet frames with Internet protocol address spaces to MPEG-2 bit-streams with address spaces smaller than the Internet protocol address spaces, each encoder having an input from a source of video program material and an

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output feeding the MPEG-2 bit-streams to the cable output lines, the frequencies of the bit-streams from the plurality of encoders being different from each other, spanning a frequency band, and

a plurality of television set top boxes connected to the combiner, each set top box having a radio frequency selector and digital multiplexor to extract individual MPEG-2 bit-streams and an MPEG-2 decoder under control of specific downloaded software from the encoder.

13. The system of claim 12 further comprising an upstream communications link between the set top boxes and the head end.

14. The system of claim 12 further comprising an Ethernet hub connected to receive an input from each of the encoders and connected to an addressable controller having means for specifying frequencies for said bit-streams.

15. The system of claim 14 wherein said addressable controller is connected to a content title server.

16. The system of claim 12 wherein data modulators and up converters are connected to the combiner for combining groups of digital channels on specific radio or television frequency channels.

17. The system of claim 12 wherein digital output of said encoders is sent to the combiner together with analog channels, thereby permitting continuing operation of non-digital set top boxes.

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18. A method of transmitting Internet data to television set top boxes comprising,

formatting the Internet Protocol (IP) of the Ethernet data frames to MPEG2 encapsulated packets including the formulation of new addresses from IP packets to MPEG2 packets by mapping the Ethernet data frame (IP) addresses to an MPEG-2 bit-stream PID address, and mapping the Ethernet data frame data bits to an MPEG-2 bit-stream payload segment following a corresponding MPEG-2 bit-stream address.

19. The method of claim 18 further defined by converting each Ethernet data frame address to a virtual address associated with specific video program material and assigning said virtual address as an MPEG-2 bit-stream address.

20. An interactive television method comprising,
producing multiple content streams from singular content streams of video program material furnished from video servers or satellite down-links, and
providing a plurality of said content streams for subscribers available in stream sharing and point to point applications, wherein stream multiplication by stream sharing for multiple session true video on demand occurs without subscriber awareness that stream sharing is in progress.

21. The method of claim 20 wherein said stream multiplication is during a single time interval.

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22. The method of claim 20 wherein said stream multiplication is during staggered time intervals.

23. A method of digital data communication comprising monitoring the bandwidth employed by digital television, Internet and telephony activity and dynamically adjusting or allocating bandwidth between the services as needed.

1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100	2101	2102	2103	2104	2105	2106	2107	2108	2109	2110	2111	2112	2113	2114	2115	2116	2117	2118	2119	2120	2121	2122	2123	2124	2125	2126	2127	2128	2129	2130	2131	2132	2133	2134	2135	2136	2137	2138	2139	2140	2141	2142	2143	2144	2145	2146	2147	2148	2149	2150	2151	2152	2153	2154	2155	2156	2157	2158	2159	2160	2161	2162	2163	2164	2165	2166	2167	2168	2169	2170	2171	2172	2173	2174	2175	2176	2177	2178	2179	2180	2181	2182	2183	2184	2185	2186	2187	2188	2189	2190	2191	2192	2193	2194	2195	2196	2197	2198	2199	2200	2201	2202	2203	2204	2205	2206	2207	2208	2209	2210	2211	2212	2213	2214	2215	2216	2217	2218	2219	2220	2221	2222	2223	2224	2225	2226	2227	2228	2229	2230	2231	2232	2233	2234	2235	2236	2237	2238	2239	2240	2241	2242	2243	2244	2245	2246	2247	2248	2249	2250	2251	2252	2253	2254	2255	2256	2257	2258	2259	2260	2261	2262	2263	2264	2265	2266	2267	2268	2269	2270	2271	2272	2273	2274	2275	2276	2277	2278	2279	2280	2281	2282	2283	2284	2285	2286	2287	2288	2289	2290	2291	2292	2293	2294	2295	2296	2297	2298	2299	2300	2301	2302	2303	2304	2305	2306	2307	2308	2309	2310	2311	2312	2313	2314	2315	2316	2317	2318	2319	2320	2321	2322	2323	2324	2325	2326	2327	2328	2329	2330	2331	2332	2333	2334	2335	2336	2337	2338	2339	2340	2341	2342	2343	2344	2345	2346	2347	2348	2349	2350	2351	2352	2353	2354	2355	2356	2357	2358	2359	2360	2361	2362	2363	2364	2365	2366	2367	2368	2369	2370	2371	2372	2373	2374	2375	2376	2377	2378	2379	2380	2381	2382	2383	2384	2385	2386	2387	2388	2389	2390	2391	2392	2393	2394	2395	2396	2397	2398	2399	2400	2401	2402	2403	2404	2405	2406	2407	2408	2409	2410	2411	2412	2413	2414	2415	2416	2417	2418	2419	2420	2421	2422	2423	2424	2425	2426	2427	2428	2429	2430	2431	2432
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